Living Costs and Food Survey

User Guide Volume A - Introduction

January – December 2011

Great Britain & Northern Ireland

ONS Social Surveys

Office for National Statistics

December 2012

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Volume A- Introduction

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If you have any queries relating to the 2011 LCF database please contact the customer response team on 01633 45 5678 or socialsurveys@ons.gov.uk

Introduction

This volume provides a brief overview of the Living Costs and Food Survey User Documentation, together with information on database and survey definitions, as well as background to the 2011 survey. The details it contains are about information resulting from the Living Costs and Food Survey (LCF) for the calendar year January to December 2011.

Guide to the 2011 user documentation

Structure of the User Documentation

Volume A - *Introduction*
- Introduction
- Guide to the 2011 User Documentation
- The Structure of the 2011 Database
- Data Flow Chart
- Database Definitions
- Description and response rates of survey
- Uses of the survey
- Definitions
- Income
- Changes in definitions
- Weighting

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- Explanatory notes
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- Explanatory note
- Income questions

Volume D - *Expenditure Codes*
- Explanatory note
- Part 1 Expenditure Codes

Volume E - *The Raw Database*

- Explanatory note
- Part 1 Raw table definitions
- Part 2 Raw variables in variable name order
- Part 3 Raw variables coding frame in variable name order
- Appendix A

Volume F - *The Derived Database*

- Explanatory note

Anonymisation in the 2011 LCF
Part 1 Derived table definitions
Part 2 Derived variables in variable name order
Part 3 Specification of product codes
Part 4 Coding frames for derived codes

Volume G – *Derived Variable Flowcharts*

Glossary
Flowcharts – Person level
Flowcharts – Household level
Flowcharts – Loan transactions
Flowcharts – Hire purchase transactions
Product codes – Person level
Product codes – Household level

Volume H - *Database Changes*

Explanatory note
Part 1 New raw variables for 2011
Part 2 2010 raw variables that have been deleted for 2011
Part 3 2010 raw variables that have changed for 2011
Part 4 New derived variables for 2011
Part 5 2010 derived variables that have been deleted for 2011
Part 6 2010 derived variables that have changed for 2011
Part 7 Major changes (1991 to 2011)

Use of the 2011 User Documentation

Explanatory notes on the use of the volumes of the documentation are given in each volume. The following gives a summary only. See 'Definitions' (p25)

Volume A -*Introduction*

Guide to the 2011 User Documentation - This volume begins with a guide to the contents and the use of the User Documentation

The structure of the 2011 database – This section of the volume outlines the different parts of the database and includes a useful flow diagram which gives a pictorial summary of the database structure.

Database definitions - Provides definitions of the terms used both on the flow diagram and in other parts of the documentation.

Volume B – *Household Questionnaire*

The first part of the LCF questionnaire collects information about households; that is to say that the majority of the questions are asked at a household-level, with the household reference person typically responding on behalf of the household as a whole. The household questionnaire includes questions on a range of subjects which are of interest to the survey's users, including family relationships, ethnicity, employment details and the ownership of household durables. It is also the source of all expenditure information not recorded in the diary; principally that which concerns regular payments typically made by all households and large, infrequently purchased items such as vehicles, package holidays and home improvements.

Volume C – *Income Questionnaire*

The income questionnaire follows on immediately from the household questionnaire and collects the key person-level variables used on the survey. The principal components of the LCF income questionnaire are the sections covering income from employment, benefits and assets. These together form an overview of the total income received by each household, as well as each household member individually.

Volumes B and C outline the questions exactly as they appear within the computer-assisted personal interviewing (CAPI) program and are then asked in the LCF interview. The Blaise program ensures that the correct questionnaire routing is followed through the interview and applies range and consistency error checks where necessary. The Blaise-code and translated routing for each individual question in the household and income questionnaires are shown in Volume B and C respectively. This can be used to both trace the conditions under which a particular question or set of questions is asked and also to illustrate the overall flow and interdependence of the LCF interview as a whole.

Volume D - *Expenditure Codes*

In the Living Costs and Food Survey, information about expenditure is collected at a detailed level. It is collected through both the diary (which respondents fill in daily for a fortnight) and through the Household Questionnaire.

Part 1 Expenditure Codes gives an indication of the types of items to be found under each expenditure code and provides a look-up table between the EFS codes (e-codes) and the COICOP-plus c-codes.

Volume E - *The Raw Database*

This volume of the User Documentation describes the raw database. The raw database contains data 'as received' as well as derived variables calculated within the questionnaire. The volume is in three parts, as outlined below.

Part 1 - Raw table definitions
The raw variables are grouped into three data files (or tables); this part of the volume defines these raw files and gives information on the three sources of the data (diary, household and income questionnaire).

Part 2 - Raw variable list
This is a variable list, listing all raw variables in alphabetical order, and including information on the variable name, description and table name. This list allows details of a variable (such as the file in which it is found) to be looked up if the variable name is known. A column is also present to identify variables that are present in the UK Data Archive anonymised dataset.

Part 3 - Raw variable coding frame
This lists coding frames for each of the variables in the questionnaires.

Appendix A – Standard period code

Volume F - *The Derived Database*

This volume of the User Documentation, in four parts, describes the derived database. A summary of anonymisation, particularly in relation to council tax, is also given following the explanatory notes.

Part 1 - Derived table definitions
The derived variables are also grouped into separate files (or tables) and this part of the volume defines these files.

Part 2 - Derived variable descriptions
All derived variables are listed, including information on the variable name, description, file name (i.e. the table in which the variable is held) and coding frame (where relevant). A column is also present to identify variables that are present in the UK Data Archive anonymised dataset.

Part 3 - P-codes
Product codes (or p-codes) are aggregated codes, some at household level and some at person level. Part 3 gives descriptions of these codes as an aid to understanding their structure.

Part 4 - Coding frames
This part of the document contains a list of the coding frames associated with the derived variables, including an index of those most used.

Volumes G – *Derived Variable Flowcharts*

Volume G of the Documentation contains flowcharts and tables that demonstrate how the variables in the database are derived.

Flowcharts for person level, household level, loan transaction and hire purchase transaction variables are included, as well as tables for person level and household level Product Codes. These have been produced on tables rather than flowcharts as they are simply the sum of other variables and do not have any routing to flowchart.

Volumes H - *Database Changes*

Volume H of the Documentation describes the changes that have taken place in the 2011 database compared with 2010.

Part 1 - contains the new raw variables for 2011.

Part 2 - contains 2010 raw variables that have been deleted for 2011.

Part 3 - contains 2010 raw variables that have changed for 2011.

Part 4 - contains new derived variables for 2011.

Part 5 - contains 2010 derived variables that have been deleted for 2011.

Part 6 - contains 2010 derived variables that have changed for 2011.

Part 7 - Major changes, highlights some of the more important definitional changes for 2011.

There are two other items of documentation that can be provided to users (if required):

The LCF Diary (adult and young person's)
LCF Interview Prompt Cards

The Structure of the 2011 database

For definitions of the terms used here, please see Part 3 - Database definitions.

Outline of the structure of the LCF database 2011

In the LCF database, variables are grouped to form a number of different SPSS DATA FILES. The raw files contain data as received and the derived files contain processed data. There are 5 anonymised SPSS data files. These are:

1. Rawper
2. Rawhh
3. DVPer
4. DVHH
5. DV_Set89

Please note that the following datasets are no longer produced:

1. DVLoans_Set86
2. DVCredit_Set87
3. DVhp_Set88
4. DVdry_Set114
5. DV_Set900
6. DV_Set89
7. DV_pocketmoney
8. DVbenunit

The attached flow diagram, Outline of the structure of the LCF database, gives an approximation of the location of different categories of data and the flow of data between the files that comprise the database (data flow is shown by the arrows). It should be noted that it gives general flows only and is not definitive.

It can be seen that there are raw data tables relating to diary expenditure, expenditure recorded on household and income questionnaires, credit cards, loans and so on. Definitions of the raw database are to be found in Volume E of the User Documentation.

All derived file names are pre-fixed "DV" and definitions are to be found in Volume F of the User Documentation.

The data flow

Items recorded in the two week diary are recorded in the raw diary file. At this stage, every separate instance of expenditure by every person is represented by a separate "record" or "row" and is assigned an expenditure code that indicates the type of item purchased and the type of transaction (e.g. cash, credit card, business expense). See Volume D for information on expenditure codes. Data at this level are not provided in the user dataset.

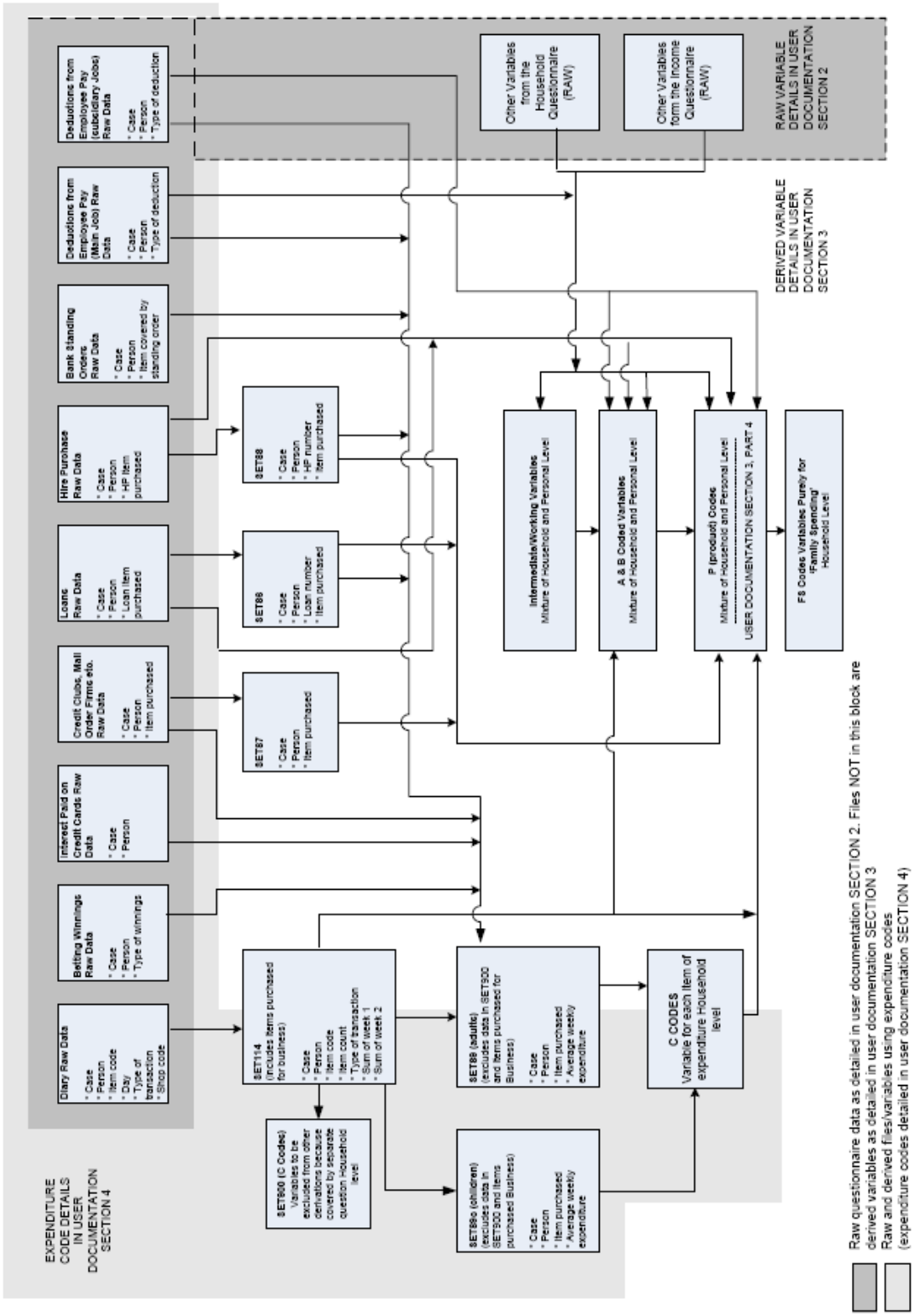
DVDRY_SET114 is the next intermediary processing stage for the diary data and here the data are more aggregated. Each row represents the total expenditure for week one or week two of

the diary keeping period for separate expenditure codes by person: one row represents the total expenditure by that person on that code in week 1 and the other represents the expenditure in week 2.

Following DVDRY_SET114, the diary data that relates to expenditure codes for which data are also collected through the questionnaire are re-directed to the intermediary step DVDRY_SET900 to avoid double counting. They are not used in any further tables.

In DVADULT_SET89 (adults) and DVCHILD_SET89C (children), some expenditure relating to the expenditure codes but collected through the questionnaire is added to that collected through the diary. In this file, there is only one row per expenditure code. This represents the average weekly expenditure for each person on items in that code. Excluded are entries from the diary that relate to types of purchase covered by individual questions in the questionnaire (i.e. the expenditure codes covered by the variables in the table set900). Included is pocket money given to a child who has completed a youth diary. This file feeds into various C-CODE files. In these, the expenditure codes become VARIABLES and are pre-fixed with 'C'. The two SET89 files are merged in the user dataset to form one larger file called DV_SET89.

The four boxes in the centre of the flow-diagram represent various levels of aggregated variables at both household (DVHH) and person (DVPER) level. Information from the questionnaire not previously included (from the two raw data files RAWPER and RAWHH) feed in at this level. Details on p-codes are given in Part 3 of Volume F of the User Documentation.


Deductions from Employee Pay (subsidiary Jobs) Raw Data
* Case
* Person
* Type of deduction
Deductions from Employee Pay (Main Job) Raw Data
* Case
* Person
* Type of deduction
Bank standing Orders Raw Data
* Case
* Person
* Item covered by standing order
Hire Purchase Raw Data
* Case
* Person
* HP item purchased
Loans Raw Data
* Case
* Person
* Loan item purchased
Credit Clubs, Mail Order Firms etc. Raw Data
* Case
* Person
* Item purchased
Interest Paid on Credit Cards Raw Data
* Case
* Person
Betting Winnings Raw Data
* Case
* Person
* Type of winnings
Diary Raw Data
* Case
* Person
* Item code
* Day
* Type of transaction
* Shop code
Other Variables from the Household Questionnaire (RAW)
Other Variables form the Income Questionnaire (RAW)
RAW VARIABLE DETAILS IN USER DOCUMENTATION SECTION 2
DERIVED VARIABLE DETAILS IN USER DOCUMENTATION SECTION 3
$ET88
* Case
* Person
* HP number
* Item purchased
$ET88
* Case
* Person
* Loan number
* Item purchased
$ET87
* Case
* Person
* Item purchased
Intermediate/Working Variables
Mixture of Household and Personal Level
A &B Coded Variables
Mixture of Household and Personal Level
P (product) Codes
Mixture of Household and Personal Level
USER DOCUMENTATION SECTION 3, PART 4
F8 Codes Variables Purely for 'Family Spending' Household Level
$ET114
(includes items purchased for business)
* Case
* Person
* Item code
* Item count
* Type of transaction
* Sum of week 1
* Sum of week 2
$ET88 (adults)
(excludes data in $ET900 and items purchased for Business)
* Case
* Person
* Item purchased
* Average weekly expenditure
C CODES
Variable for each item of expenditure Household level
$ET900 (IC Codes)
Variables to be excluded from other derivations because covered by separate question Household level
$ET88o (children)
(excludes data in $ET900 and items purchased Business)
* Case
* Person
* Item purchased
* Average weekly expenditure
EXPENDITURE CODE DETAILS IN USER DOCUMENTATION SECTION 4
Raw questionnaire data as detailed in user documentation SECTION 2. Files NOT in this block are derived variables as detailed in user documentation SECTION 3
Raw and derived files/variables using expenditure codes (expenditure codes detailed in user documentation SECTION 4)

Outline Structure of the LCF database

Database Definitions

The raw database
The raw database contains data "as received". At this stage, weekly equivalent values have been calculated for questionnaire data (see note on 'weekly equivalent values') and some imputation has been carried out. Care should be taken when using raw data.

The raw database is defined in Volume E of the User Documentation.

The derived database
The derived database consists of variables that have been adjusted in some way in relation to the state in which they were received. This adjustment might involve only a change in name, or it might involve some calculation or aggregation. The variables are grouped in files which have DV in the name. Examples are DVHH or DV_SET89.

The main variable prefixes and suffixes are briefly described below, but more information on the derived database is given in Volume F of the User Documentation.

'A' and 'B' codes
A-codes and B-codes are aggregate codes, some at household level and some at person level. They are all derived codes and so are listed in Volume F (The Derived Database) of the User Documentation. That they are pre-fixed 'a' or 'b' has no significance.

Anonymisation
Variables which could lead to the identification of a household or an individual are not released to users.

An 'anonymised' version of sensitive raw or derived variables is provided in the user dataset. Variables which have been anonymised can be identified because they are suffixed 'p' (those which are not have been detailed in the appropriate User Documentation). Un-anonymised versions are, in the main, suffixed 'u' and are not accessible to external users of the LCF. Raw diary information is not provided to any external users. The principles of anonymisation, particularly in relation to council tax, are explained in Volume F of the User Documentation. All variables that are released as part of the UK Data Archive anonymised dataset are identified alongside the variable lists in Volumes E and F.

Codes suffixed 'c'
These codes represent the expenditure of children, aged between 7 and 15, who completed a diary. The codes are aggregated to household level. Variables suffixed 'c' are only available as expenditure or product codes e.g. p522c.

Codes suffixed 't'

These codes represent total expenditure by children and adults. They are aggregated to household level by adding the original (adult) variable to those suffixed 'c', (i.e. p522 + p522c = p522t). Variables suffixed 't' are only available as expenditure or product codes.

Codes suffixed 'l'

These codes represent expenditure in nominated large supermarkets. Variables suffixed 'l' are only available as expenditure codes for food, alcohol, petrol, some household goods and regular purchases. For expenditure on clothing the suffixes are 'x' for selected clothing chains, 'y' for large supermarkets and 'z' for charity shops.

Codes suffixed 'w'

These codes represent expenditure for goods and services ordered via the internet. Variables suffixed 'w' are only available as expenditure codes for certain goods and services ordered via the internet.

Coding frame

If a variable has a coding frame, it means that it is allowed to take on only certain permitted values (i.e. the variable is not a 'free' field).

The name of a coding frame is usually the same as the name of the variable using it, however, the more commonly used coding frames have their own names. If a variable has a coding frame it is named in the final column of part 2 of Volume F of the User Documentation. The coding frames are listed in alphabetical order in Part 4 (Coding Frames) of the User Documentation.

Diary

The diary is completed by every spender. It is completed daily for 14 days and all expenditure in that period is recorded.

See 'Expenditure' in 'Definitions' (p29) for further information on the collection of data through the diary.

Expenditure codes

Each expenditure amount collected through the diary and some collected through the questionnaire are given a code which represents the type of item that was purchased. The LCF expenditure codes differ from those used for the Family Expenditure Survey (FES), therefore, care needs to be taken when comparing LCF and FES data. The LCF codes are based on the European standard classification, COICOP (Classification of Individual Consumption by Purpose).

Variables representing household aggregates of the expenditure codes are called C-codes (or C-variables): the variable name is the expenditure code pre-fixed with 'C'. A complete listing of the expenditure codes and more details on their use can be found in Volume D (Expenditure Codes) of the User Documentation.

Filename
The filename is the database reference name of the file, referring to individual SPSS datafiles.

In the LCF database, the data are stored in a number of different files. A single file may contain information on a number of variables that are related to one another in some way, such as the file called 'DVLOANS_SET86' which contains information about loans, or variables which are at the same level of detail, such as DVPER which contains the main person level derived variables.

Conceptually, a file can be perceived as consisting of rows and columns: the 'column headings' are the names of the variables contained in that table and each 'row' represents an individual 'record'. A 'row' or 'record' is uniquely labelled with, for example, case (household number), person (person number), or itemnum (item number). If both case and person are used, such as in the file DVPER, then there is a separate row in the table not only for every household, but for every person within that household.

FS Codes
FS codes are used only for the preparation of the publication 'Family Spending'.

Household questionnaire – Volume B
The Household Questionnaire must be completed for every adult in the household.

The household questionnaire collects information on household characteristics and the characteristics of the individuals living there. Also collected through the Household Questionnaire is information on mortgages, rents, bills, insurance policies, loans, hire purchase, standing orders, season tickets and other irregular expenditure such as that on cars or home improvements. Information on the irregular purchases is often obtained through retrospective recall (i.e. the question may be 'when did you last purchase a ..... ?'). Expenditure on retrospective recall is converted to a weekly equivalent value. That is, if the recall period is one year, then the weekly equivalent value is calculated by dividing by 52.

See the Household Questionnaire for details on questions and recall periods.

Income Questionnaire – Volume C
The Income Questionnaire must be completed for EVERY adult in the household. The income questionnaire collects information on the income of the individuals in the household and the household as a whole. See 'Survey Definitions', Volume A, Part 5 for income definitions.

Period codes
Where expenditure amounts are not given on a weekly equivalent basis, a weekly equivalent is calculated by dividing the amount given by the appropriate period. The standard period codes can be found at the end of Part 1 of this volume.

Product codes (p-codes)

Product codes (or p-codes) are aggregate codes, some at household level and some at person level. Part 3 of Volume F of the User Documentation gives descriptions of these codes as an aid to understanding their structure, along with more detailed explanatory notes on their use.

Variable name

The variable name (sometimes just written 'variable' in the documentation) is the database reference name of the variable. Variable descriptions can be found in Part 2 of both Volume E and Volume F of the User Documentation.

Variable description

The variable description is a brief description of the variable. Variable lists ordered by variable description can be found in Part 3 of both Volume E and Volume F of the User Documentation.

Weekly equivalent values (wev) - codes prefixed 'DV'

So that expenditure from different sources can be aggregated, it is necessary for all expenditure amounts to be on an equivalent basis. In order to achieve this, all expenditure amounts collected through the questionnaire are converted to WEEKLY EQUIVALENT VALUES. In the dataset, weekly equivalent values can be identified because they are pre-fixed 'DV'. Information on weekly equivalent values is included as part of the questionnaire. Weekly equivalent values are RAW variables and so are listed in Volume E of the User Documentation.

Description and response rate of the survey

The survey

A household expenditure survey has been conducted each year in the UK since 1957. From 1957 to March 2001 the Family Expenditure Survey (FES) and National Food Survey (NFS) provided information on household expenditure patterns and food consumption. In April 2001 these surveys were combined to form the Expenditure and Food Survey (EFS).

In 2008 selected Government household surveys, on which the Office for National Statistics (ONS) leads, were combined into one Integrated Household Survey (IHS). In anticipation of this, the EFS moved to a calendar-year basis in January 2006. The EFS questionnaire became known as the Living Costs and Food (LCF) module of the IHS in 2008, to accommodate the insertion of a core set of IHS questions.

More information about the IHS can be found on the National Statistics website: http://www.ons.gov.uk/ons/guide-method/surveys/list-of-surveys/survey.html?survey=%27Integrated+Household+Survey%27. In summary, the survey design allows for the collection of common core data across the pooled samples of the constituent surveys, achieving the biggest pool of UK social data after the Census. The large sample allows a detailed level of analysis to be conducted, and allows results to be reported for smaller geographic areas. The IHS has become the key vehicle for high-profile national data collection initiatives including questions on subjective well-being, and on sexual identity.

The LCF is a voluntary sample survey of private households. The basic unit of the survey is the household. A household comprises one person living alone or a group of people (not necessarily related living at the same address) who share cooking facilities AND share a living room or sitting room or dining area (See ‘Definitions’).

Each individual aged 16 and over in the household visited is asked to keep diary records of daily expenditure for two weeks. Information about regular expenditure, such as rent and mortgage payments, is obtained from a household interview along with retrospective information on certain large, infrequent expenditures such as those on vehicles. Children aged 7 to 15 are asked to keep a simplified version of the diary.

Detailed questions are asked about the income of each adult member of the household. In addition, personal information such as age, sex and marital status is recorded for each household member. A copy of the LCF questionnaire is available from the Economic and Social Data Service.

The survey is continuous, interviews being spread evenly over the year to ensure that seasonal effects are covered. The questionnaire content is reviewed thoroughly to ensure that it is up-to-date and captures information efficiently. Some changes reflect new forms of expenditure or new sources of income, especially benefits. Others are the result of new requirements by the survey’s users. (See the section on ‘Survey Improvements’ for more information.)

The sample design

The LCF sample for Great Britain is a multi-stage stratified random sample with clustering. It is drawn from the Small Users file of the Postcode Address File (PAF) – the Post Office's list of addresses. All Scottish offshore islands and the Isles of Scilly are excluded from the sample because of excessive interview travel costs. Postal sectors are the primary sample unit. 638 postal sectors are randomly selected after being arranged in strata defined by Government Office Regions (sub-divided into metropolitan and non-metropolitan areas) and two 2001 Census variables: socio-economic group of the head of household and ownership of cars. These census variables were new stratifiers originally introduced for the 1996/97 survey, and updated following the results of the 2001 Census. The results of the 2011 Census will be used in due course. The Northern Ireland sample is drawn as a random sample of addresses from the Land and Property Services Agency list.

Response to the survey

Great Britain

A total of 11,484 households were selected in 2011 for the LCF in Great Britain. However, it is not possible to get full response. A small number of households cannot be contacted at all, and in other households one or more members decline to co-operate. 5,293 households in Great Britain co-operated fully in the survey in 2011; that is, they answered the household questionnaire and all adults in the household answered the full income questionnaire and kept the expenditure diary. A further 238 households provided sufficient information to be included as valid responses. The overall response rate for the 2011 LCF was 54 per cent in Great Britain, an increase from 50 per cent in 2010.

Details of response are shown in the following table.

Response in 2011 – Great Britain

		No of households or addresses	Percentage of effective sample
i.	Sampled addresses	11,484	-
ii.	Ineligible addresses: businesses, institutions, empty, demolished/derelict	1,183	-
iii.	Extra households (multi-household addresses)	2	-
iv.	Total eligible (that is i less ii, plus iii)	10,303	*100*
v.	Co-operating households (which includes 238 partials)	5,531	*53.7*
vi.	Refusals	3,590	*34.8*
vii.	Households at which no contact could be obtained	1,182	*11.5*

Northern Ireland

In the Northern Ireland survey, the eligible sample was 261 households. The number of co-operating households who provided usable data was 161, giving a response rate of 62 per cent. This represents an increase of 2 percentage points from the 2010 survey year.

Northern Ireland was over-sampled in the years 1997/98 to 2009 in order to provide a large enough sample for some separate analysis. This boost to the Northern Ireland sample was discontinued in 2010.

Partial response

Three types of partial response are accepted on the LCF:

- All adults complete the full income section of the interview, but one or more adults in the household refuse to keep the diary.
- All adults in the household keep the diary, but one or more adults provides only partial income information.
- One or more adults refuse to keep the diary and one or more adults provide only partial income information.

All partial responses must contain a diary from the Main Diary Keeper (MDK), who is the person who does most of the shopping in the household. If the MDK refuses to complete the diary the household is classified as a refusal.

In 2011 partial responses accounted for 4.3 per cent (238 households) of all co-operating households. Of these partials, the majority (98 per cent) occurred because one or more adults in the household refused to keep the diary. Partial income information was provided in 2 per cent of cases.

Type of partial response in 2011 – Great Britain

Type of partial response, 2011
Great Britain

Type of partial response	Number of households	Percentage of partials
1. One or more adults refuse to keep the diary[1]	233	98%
2. One or more adults provide only partial income information	5	2%
All	**238**	**100%**

[1] Diary is present for the main diary keeper.

LCF response rates over time

Response rates to household surveys have generally been declining in recent years. In 2011 the LCF's response rate for Great Britain was 54 per cent (see 'Response to the survey' for a detailed breakdown), compared with around 59 per cent in 2000/01. Response in 2011 was higher than in 2010, when 50 percent was achieved. It should be noted that the LCF requires satisfactory completion of both the household questionnaire and diary (see 'Eligible response' for more information).

Response rates over time – Great Britain

Year	Response rate
	Percentage
2000/01	59
2001/02	62
2002/03	58
2003/04	58
2004/05	57
2005/06	57
2006	55
2007	53
2008	51
2009	50
2010	50
2011	54

N.B. in 2006, the survey moved to a calendar year. In 2007 the sample size was reduced by 5%

Response rates are sometimes used as an indicator of a survey's quality and how representative a sample is of the target population. It is generally assumed that the lower the response rates the greater the likelihood of bias in the results. This is because the characteristics of non-responding households may differ from those of responding households causing certain types of households to be under-represented in the sample. Analysis of the UK Labour Force Survey (LFS) tentatively reported an effect for some variables; a separate study[1] for the LCF found that weekly variation in the number of LCF cases achieved did not result in different expenditure patterns being reported. Overall, there is little evidence to suggest that a limited drop in response will affect bias to a large degree. Nevertheless, to maintain quality of the data, methods such as proxy and partial interviews are set in place to minimise non-response for the LCF. A pilot using higher incentives was run to explore potential increases in response rates. Following the results of this pilot it was decided to continue with the existing payment, as the cost of increasing this incentive outweighed the benefit gained from a small increase in response.

Currently, non-responders are accounted for in the weighting process for LCF data, which compensates for non-responders recognised from analysis of the 2001 Census (see 'Weighting' for more information). At present, the LCF is contributing towards the 2011 Census non-response linkage project, which will enable non-response weights to be updated.

Lower response also potentially impacts on precision, with fewer cases being completed. However, considering the years from 2007 (when the current set sample size was adopted for Great Britain), percentage standard errors at COICOP level have not changed measurably (see Table A1 for 2011 standard errors).

The fieldwork

The fieldwork is conducted by the Office for National Statistics (ONS) in Great Britain and by the Northern Ireland Statistics and Research Agency (NISRA) of the Department of Finance and Personnel in Northern Ireland using almost identical questionnaires. Households at the selected addresses are visited and asked to co-operate in the survey. In order to maximise response, interviewers make at least four separate calls, and sometimes many more, at different times of day on households which are difficult to contact. Interviews are conducted by Computer Assisted Personal Interviewing (CAPI) using laptop computers. During the interview information is collected about: the household; certain regular payments such as rent, gas, electricity and telephone accounts; expenditure on certain large items (for example vehicle purchases over the previous 12 months); and income. Each individual aged 16 and over in the household is asked to keep a detailed record of expenditure every day for two weeks. Children aged between 7 and 15 are also asked to keep a simplified diary of daily expenditure. In 2011 a total of 1,525 children aged between 7 and 15 in responding households in the UK were asked to complete expenditure diaries; 305, or 20 per cent, did not do so. This number includes both refusals and children who had no expenditure during the two weeks. Information provided by all members of the household is kept strictly confidential. Each person aged 16 and over in the household who keeps a diary (and whose income information is collected) is subsequently paid £10 as a token of appreciation. Children who keep a diary are given a £5 payment.

In the last two months of the 1998/99 survey, as an experiment, a small book of postage stamps was enclosed with the introductory letter sent to every address. Response seemed to increase as a result of this experiment and it has become a permanent feature of the survey. It is difficult to quantify the exact effect on response but the cognitive work that was carried out as part of the EFS development indicated that it was having a positive effect.

Some survey cases are reissued if a response is not obtained, that is, the cases are reallocated to field interviewers at a later date to attempt to achieve a response. Criteria are applied to determine which cases should be reissued. Until 2010 there was a strict reissue criterion that restricted the number of cases that could be reissued. In 2010 this was changed to include cases where the interviewer was 'not sure' whether it was worth reissuing the case. It is then left to field staff at headquarters to assess whether or not to reissue. Previously the only cases

reissued were those where the interviewer reported that the household had expressed an interest in participating or would be likely to participate.

In 2011 some 989 addresses were reissued, of which 113 were converted into responding households. This increased the overall response rate by 1.1 percentage points.

Eligible response

Under LCF rules, a refusal by just one person to respond to the income section of the questionnaire invalidates the response of the whole household. Similarly, a refusal by the household's main shopper to complete the two-week expenditure diary also results in an invalid response.

Proxy response

Questions about general household affairs are put to all household members or to the household representative person (HRP), and questions about work and income are put to the individual members of the household. Where a member of the household is not present during the household interview, another member of the household (for example a spouse) may be able to provide information about the absent person. The individual's interview is then identified as a proxy interview. Under LCF rules, the expenditure diary cannot be completed by proxy; if a household member is not present during the diary period they are classified as an absent spender.

In 2001/02 the EFS began including households that contained a proxy interview. In that year, 12 per cent of all responding households contained at least one proxy interview. In 2011 the percentage of fully responding households with a proxy interview was 24 per cent. The rise in the percentage of proxy interviews over time reflects general response trends for social surveys; interviewers are finding it increasingly difficult to make initial contact with households and to secure interviews with each household member.

Households containing proxy interviews, 2003/04 to 2011 – Great Britain

	2003/04	2004/05	2005/06	2006	2007	2008	2009	2010	2011
	Percentage of households								
Proxy interviews	12	15	13	14	17	21	23	22	24
Total number of households	**6,432**	**6,265**	**6,258**	**6,059**	**5,545**	**5,271**	**5,222**	**5,116**	**5,531**

Analysis of the 2011 data revealed that the inclusion of proxy interviews increased response from above average income households. For the 2011 survey, the average gross normal weekly household income was 15 per cent higher than it would have been if proxy interviews had not

been accepted. Similar findings were obtained with respect to expenditure: total spending was 12 per cent higher than if proxy interviews had not been included. Use of proxies enhances the sample size and hence the precision of the figures obtained. It also enables the survey to capture the income and expenditure from (on average) higher-earning households and hence ensures that these households are represented fully in the survey. This must be weighed against the risk that the proxy interviews may not provide exactly the same information as direct interviews, but the available evidence suggests that including proxies provides higher data quality overall.

Reliability

Great care is taken in collecting information from households, and comprehensive checks are applied during processing so that errors in recording and processing are minimised. The main factors that affect the reliability of the survey results are sampling variability, non-response bias and some incorrect reporting of certain items of expenditure and income. Measures of sampling variability are given alongside some results in this report and are discussed in detail in 'Standard errors and estimates of precision'.

The households which decline to respond to the survey tend to differ in some respects from those that co-operate; it is therefore possible that their patterns of expenditure and income also differ. A comparison was made of the households responding in the 1991 FES with those not responding, based on information from the 1991 Census (A comparison of the Census characteristics of respondents and non-respondents to the 1991 FES by K Foster[2], ONS Survey Methodology Bulletin No. 38, Jan 1996). Results from the study indicate that response was lower than average in Greater London, higher in non-metropolitan areas, and that non-response tended to increase with increasing age of the head of the household – up to age 65. Households that contained three or more adults, or where the head of the household was born outside the United Kingdom or was classified to an ethnic minority group, were also more likely than others to be non-responding. Non-response was also above average where the head of the household had no post-school qualifications, was self-employed, or was in a manual social class group. The data were re-weighted to compensate for the main non-response biases identified from the 1991 Census comparison, as described in 'Weighting'. ONS has completed a similar comparative exercise with the 2001 Census data, which resulted in an update of the non-response weights for the estimates for 2007 onwards. Further analysis will be conducted using the results of the 2011 Census.

Checks are included in the computer assisted personal interviewing (CAPI) program, which are applied to the responses given during the interview. Other procedures are also in place to ensure that users are provided with high quality data. For example, quality control is carried out to ensure that any unusual values (outliers) are genuine, and checks are made on any unusual changes in average spending compared with the previous year.

When aspects of the survey change, rigorous tests are used to ensure the proposed changes are sensible and work both in the field and on the processing system. During 2010 a set of questions were developed to capture expenditure on combined communications packages, for example, where television, internet and telephone services are purchased from a single provider. These questions were developed following an expert review and cognitive testing conducted by the ONS Methodology directorate. These questions have been included in the 2011 questionnaire and feed into this 2012 edition of *Family Spending*.

Income and expenditure balancing

The LCF is designed primarily as a survey of household expenditure on goods and services. It also gathers information about the income of household members, and is an important and detailed source of income data. However, it is not possible to draw up a balance sheet of income and expenditure either for individual households or groups of households.

The majority of expenditure information collected relates to the two-week period immediately following the interview, whereas income components can refer to a much longer period (the most recent 12 months). LCF income does not include withdrawal of savings; loans and money received in payment of loans; receipts from maturing insurance policies; proceeds from the sale of assets (such as a car); and winnings from betting or windfalls, such as legacies. Despite this, recorded expenditure might reflect these items, as well as the effects of living off savings, using capital, borrowing money or income – either recent or from a previous period.

Hence, there is no reason why income and expenditure should balance. In fact measured expenditure exceeds measured income at the bottom end of the income distribution. However, this difference cannot be regarded as a reliable measure of savings or dis-saving.

For further information of what is included in income on the LCF see 'Income headings'.

Imputation of missing information

Although LCF response is generally based on complete households responding, there are areas in the survey for which missing information is imputed (inferred, sometimes in conjunction with other sources). This falls into two broad categories: item imputation and diary imputation. Using a combination of reliable imputation procedures ensures that the LCF data provide a comprehensive picture of the spending patterns and income sources for each household.

Questionnaire item imputation

Although LCF interviewers are trained to obtain full answers or best estimates for all questions, and encourage respondents to refer to up-to-date bills and statements, missing values in the questionnaire can sometimes occur when respondents are unable to provide an answer.

Missing data for questions in the expenditure and income parts of the questionnaire are imputed using the following procedures:

- By reference to tables based on external (non-LCF) data published elsewhere. For example, rates and eligibility rules for state benefits; council tax rates for properties in different council tax bands; and the Annual Survey of Hours and Earnings (ASHE).
- By reference to tables based on LCF data from previous years showing average amounts according to gross household income quintile. Expenditures imputed using this method include insurances, utilities, rent, personal pensions, and child income.

- Using information collected elsewhere in the questionnaire. For example, missing tax and National Insurance payments can be imputed if a gross salary figure has been provided.

Respondents who have failed to answer important questions, such that the main streams of income and expenditure are not captured, are converted to refusals to ensure that a sufficiently high level of data accuracy is maintained.

Markers are included in the LCF datasets to record whether values at key expenditure and state benefit questions were imputed or amended; this gives a broad indication of the amount of imputation carried out for each individual case.

Diary imputation

The LCF accepts households with missing diaries, as long as the diary of the Main Diary Keeper (MDK) is present. Diaries which are missing are imputed, that is they will receive the diary data from a person in another responding household with matching characteristics. Missing diaries for households in Great Britain and Northern Ireland are imputed from the pool of responding cases for the appropriate country.

The first step in the diary imputation process involves scoring each person in the pool of potential donors for suitability as a match for the person with a missing diary.

The scoring system is:

- matching age = 8 points
- matching relationship to the HRP = 4 points
- matching employment status = 2 points
- matching survey month = 1 point

In the next stage of the process the potential donor with the highest score is selected and the diary data from the donor is copied to the receiving person. To be used as a donor, a diary must achieve a minimum score of 8 points.

In 2011, 218 households had imputed diaries, accounting for 3.8 per cent of responding households.

Variables that indicate whether or not a diary has been imputed, and the number of diaries imputed per household, are included in the LCF datasets.

Uses of the survey

LCF expenditure data

Retail Prices Index – The main reason, historically, for instituting a regular survey on expenditure by households has been to provide information on spending patterns for the Retail Prices Index (RPI) and the Consumer Prices Index (CPI). From April 2011 the CPI rather than the RPI is used as basis for indexation of benefits, tax credit and state and public service pensions. The RPI and CPI measure the change in the cost of a selection of goods and services (the 'basket of goods') representative of the expenditure of the vast majority of households. The pattern of expenditure gradually changes from one year to the next, and the composition of the basket of goods needs to be kept up-to-date. Accordingly, regular information is required on spending patterns and much of this is supplied by the LCF. The expenditure weights for the general RPI and CPI need to relate to people within given income limits, for which the LCF is the only source of information.

Household expenditure and Gross Domestic Product (GDP) – LCF data on spending are an important source used in compiling national estimates of household final consumption expenditure which are published regularly in *United Kingdom National Accounts* (ONS Blue Book). Household final consumption expenditure estimates feed into the National Accounts and estimates of GDP. They will also provide the weights for Purchasing Power Parities (PPPs) for international price comparisons. LCF data are also used in the estimation of taxes on expenditure, in particular VAT.

Regional accounts – LCF expenditure information is one of the sources used by ONS to derive regional estimates of consumption expenditure. It is also used in compiling some of the other estimates for the regional accounts.

The statistical office of the European Union (Eurostat) collates information from family budget surveys conducted by the member states. The LCF is the UK's contribution to this important EU initiative to collect data on household expenditure from member countries.

Other government uses – The Department of Energy and Climate Change and the Department for Transport both use LCF expenditure data in their own fields relating to, for example, energy, housing, cars and transport.

Non-government uses – There are also numerous users outside central government, including academic researchers and business and market researchers. One example is an academic study that has used LCF data, as part of a wider study, to obtain a clear picture of utility expenditure patterns across the European Union.

LCF income data

Redistribution of income – LCF information on income and expenditure is used to study how government taxes and benefits affect household income. The Government's interdepartmental tax benefit model is based on the LCF and enables the economic effects of policy measures to

be analysed across households. This model is used by HM Treasury and HM Revenue and Customs to estimate the impact on different households of possible changes in taxes and benefits.

Non-government users – As with the expenditure data, LCF income data are also studied extensively outside government. In particular, academic researchers in the economic and social science areas of many universities use the LCF. For example the Institute for Fiscal Studies uses LCF data in research it carries out both for government and on its own account to inform public debate.

Comparison with another source: Household final consumption estimates

A useful comparison for LCF estimates is with Household Final Consumption Expenditure (HHFCE) figures published in Consumer Trends and used in the UK National Accounts. These can be found via the following link:
www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-23619

This section compares estimates from the LCF with the estimates used in the UK National Accounts. The Household Final Consumption Expenditure estimates use a number of administrative and survey sources, of which the LCF survey is one. As a result differences occur in the estimates published, because of sources and concepts.

For example, conceptual differences can be found for housing expenditure. Family Spending only includes rental costs in the housing, fuel and power category, whilst mortgage costs are included in the other expenditure items category. In contrast, National Accounts housing data in the housing, fuel and power category includes a value for rentals paid by owner occupiers in order to maintain international comparability. This is a theoretical cost that home owners would have to pay to rent their home. By international convention, mortgage costs are excluded from National Accounts Household Final Consumption Data.

According to Family Spending data, Housing, water, electricity, gas and other fuels was the category where the value of spending increased most over the time series. Despite the conceptual differences between the two outputs, National Accounts household expenditure estimates also show a large increase (46 per cent) in spending.

Both National Accounts and Chapter 4 of Family Spending, 2011 provide estimates over time to remove the effects of inflation and to enable figures for different years to be compared on a like-for-like basis. The National Accounts figures adjusted for inflation are known as “volume measures”. The volume measures of National Accounts show that Housing expenditure has remained relatively stable, while the prices of goods and services in this category have increased by 45 per cent between 2005 and 2011. Adjusted for inflation, Family Spending shows an increase in expenditure of 18 per cent over the same period (from £53.80 to £63.30).

A similar pattern can be seen in the Food and non-alcoholic drinks category in National Accounts data, showing a reduction in volume (7 per cent) and an increase in the monetary value of spending by around 25 per cent since 2005. This is broadly the same figure as reported by Family Spending, which notes a 21 per cent increase in spending on food since 2005. These figures indicated relatively little scope or willingness to cut back on these items, despite significant price rises in some goods and services and the recession of 2008/2009.

Other LCF data

The Department for Environment, Food and Rural Affairs (Defra) publishes separate reports using LCF data on food expenditure to estimate consumption and nutrient intake. The Department for Transport uses LCF data to monitor and forecast levels of car ownership and use, and in studies on the effects of motoring taxes.

Note: Great care is taken to ensure complete confidentiality of information and to protect the identity of LCF households. Only anonymised data are supplied to users.

Definitions

Major changes in definitions since 1991 are described in the following section. Changes to definitions made prior to 1991 can be found in earlier editions of Family Spending.

Household

A household comprises of one person living alone or a group of people (not necessarily related living at the same address) who:

share cooking facilities

and share a living room or sitting room or dining area

Resident domestic servants are included. The members of a household are not necessarily related by blood or marriage. As the survey covers only private households, people living in hostels, hotels, boarding houses or institutions are excluded. Households are included if some or all members are not British subjects, however, information is not collected from households containing members of the diplomatic service of another country or members of the United States armed forces.

Retired households

Retired households are those where the household reference person is retired. The household reference person is defined as retired if they have reached state pension age and are economically inactive. Since May 2010 the state pension age for women has been increasing gradually to be in line with the male pension age of 65 by 2018. Therefore, if for example a male household reference person is aged over 65 years of age, but working part-time or waiting to take up a part-time job, this household would not be classified as a retired household. For analysis purposes two categories are used in this report:

- 'A retired household mainly dependent upon state pensions' is one in which at least three-quarters of the total income of the household is derived from national insurance retirement and similar pensions, including housing and other benefits paid in supplement to or instead of such pensions. The term 'national insurance retirement and similar pensions' includes national insurance disablement and war disability pensions, and income support in conjunction with these disability payments
- 'Other retired households' are retired households which do not fulfil the income conditions of 'retired household mainly dependent upon state pensions' because more than a quarter of the households income derives from other sources. For example, occupational retirement pensions and/or income from investments, or annuities.

Household reference person (HRP)

From 2001/02 the concept of household reference person (HRP) was adopted on all government-sponsored surveys in place of head of household. The household reference person is the householder who:

- owns the household accommodation, or
- is legally responsible for the rent of the accommodation, or
- has the household accommodation as an emolument or perquisite, or
- has the household accommodation by virtue of some relationship to the owner who is not a member of the household.

If there are joint householders the household reference person will be the one with the higher income. If the income is the same, then the eldest householder is taken.

Members of household

In most cases the members of co-operating households are easily identified as the people who satisfy the conditions in the definition of a household (see above), and are present during the record-keeping period. However, difficulties of definition arise where people are temporarily away from the household or else spend their time between two residences. The following rules apply in deciding whether or not such persons are members of the household:

- Married people living and working away from home for any period are included as members, provided they consider the sampled address to be their main residence. In general, other people (such as relatives, friends and boarders) who are either temporarily absent or who spend their time between the sampled address and another address, are included as members if they consider the sampled address to be their main residence. However, there are exceptions which override the subjective main residence rule:

- Children under 16 years of age away at school are included as members.

- Older people receiving education away from home, including children aged 16 and 17, are excluded unless they are at home for all or most of the record-keeping period.

- Visitors staying temporarily with the household, and others who have been in the household for only a short time are treated as members, provided they will be staying with the household for at least one month from the start of record-keeping.

Household composition

A consequence of these definitions is that household compositions quoted in this report include some households where certain members are temporarily absent, for example, a ‘two-adult and children’ household where one parent is temporarily away from home.

Adult

In the report, people who have reached the age of 18 are classed as adults. In addition, those aged 16 to 18 who are not in full-time education, or who are married, are classed as adults.

Children

In the report, people who are under 18 years of age, in full-time education and have never been married are classed as children.

However, in the definition of clothing, clothing for people aged 16 years and over is classified as clothing for men and women; clothing for those aged 5 to 15 as clothing for boys and girls; and clothing for those under five as babies clothing.

Main Diary Keeper (MDK) (or main shopper)

The MDK is the person in the household who is normally responsible for most of the food shopping. This includes people who organise and pay for the shopping although they do not physically do the shopping themselves.

Spenders

Household members aged 16 and over, excluding those who for special reasons are not capable of keeping diary record-books, are described as spenders.

Absent spenders

If a spender is absent for longer than 7 days they are defined as an 'absent spender'. Absent spenders do not keep a diary and consequently are not eligible for the monetary gift that is paid to diary keepers.

Non-spenders

If a household member is completely incapable of contributing to the survey by answering questions or keeping a diary, then they are defined as a 'non-spender'. However, incapable people living on their own cannot be designated as non-spenders as they comprise the whole expenditure unit. If this is the case, the interviewer should enlist the help of the person outside of the household who looks after their interests. If there is no-one able or willing to help, the address is coded as incapable.

Economically active

These are people aged 16 and over who fall into the following categories:

- **Employees at work** – those who at the time of interview were working full-time or part-time as employees or were away from work on holiday. Part-time work is defined as normally working 30 hours a week or less (excluding meal breaks) including regularly worked overtime.
- **Employees temporarily away from work –** those who, at the time of interview, had a job but were temporarily absent due to, for example, illness, temporary lay-off, or strike.
- **Government supported training schemes** – those participating in government programmes and schemes who, in the course of their participation, receive training such as Employment Training, and including those who are also employees in employment.
- **Self-employed** – those who, at the time of interview, said they were self-employed.
- **Unemployed** – those who, at the time of interview, were out of employment and have sought work within the last four weeks and were available to start work within two weeks, or were waiting to start a job already obtained.

- **Unpaid family workers** – those working unpaid for their own or a relative's business. In this report, unpaid family workers are included under economically inactive in analyses by economic status (Tables A17 and B5) because insufficient information is available to assign them to an economic status group.

Economically inactive

- **Retired** – people who have reached national insurance retirement age and are not economically active. Since May 2010 the female state pension age has been gradually increasing to align with the male pension age of 65 by 2018.
- **Unoccupied** – people under national insurance retirement age who are not working, nor actively seeking work. This category includes certain self-employed people such as mail order agents and baby-sitters who are not classified as economically active.

National Statistics Socio-economic Classification (NS-SEC)

From 2001 the National Statistics Socio-economic Classification (NS-SEC) was adopted for all official surveys, in place of Social Class based on Occupation (SC) and Socio-economic Groups (SEG). NS-SEC is itself based on the Standard Occupational Classification 2000 (SOC2000) and details of employment status. Although NS-SEC is an occupation-based classification, there are procedures for classifying those not in work.

The main categories used for analysis in *Family Spending* are:

1 Higher managerial and professional occupations, sub-divided into:
  1.1 Large employers and higher managerial occupations
  1.2 Higher professional occupations
2 Lower managerial and professional occupations
3 Intermediate occupations
4 Small employers and own account workers
5 Lower supervisory and technical occupations
6 Semi-routine occupations
7 Routine occupations
8 Never worked and long-term unemployed
9 Students
10 Occupation not stated
11 Not classifiable for other reasons

The long-term unemployed are defined as those unemployed and seeking work for 12 months or more. Members of the armed forces, who were assigned to a separate category in social class, are included within the NS-SEC classification. Individuals that have retired within the last 12 months are classified according to their employment. Other retired individuals are assigned to the 'Not classifiable for other reasons' category.

Socio-economic Classification (SE-SEC) regions

These are the same areas as UK regions and countries, see region map within this section for more details.

Urban and rural areas

This classification introduced in 2005/06 replaces the previous Department for Transport, Local Government and the Regions (DTLR) 1991 Census-based urban and rural classification, which was used in previous editions of *Family Spending*. The new classification is applied across Great Britain and is an amalgamation of the Rural and Urban Classification 2004 for England and Wales and the Scottish Executive Urban Rural Classification. These classifications are based on 2001 Census data and have been endorsed as the standard National Statistics Classifications for identifying urban and rural areas across GB. In broad terms, an area is defined as urban or rural depending on whether the population falls inside a settlement of 10,000 or more. For further details concerning these classifications please refer to the Rural/Urban Definition and LA Classification on the Office for National Statistics (ONS) website.

Expenditure

Any definition of expenditure is to some extent arbitrary, and the inclusion of certain types of payment is a matter of convenience or convention depending on the purpose for which the information is to be used. In the tables in this report, total expenditure represents current expenditure on goods and services. Total expenditure, defined in this way, excludes those recorded payments that are really savings or investments: for example, purchases of national savings certificates, life assurance premiums, and contributions to pension funds. Similarly, income tax payments, national insurance contributions, mortgage capital repayments and other payments for major additions to dwellings are excluded. Expenditure data are collected in the diary record-book and in the household schedule. Informants are asked to record in the diary any payments made during the 14 days of record-keeping, whether or not the goods or services paid for have been received. Certain types of expenditure which are usually regular though infrequent, such as insurance, licences and season tickets, and the periods to which they relate, are recorded in the household schedule as well as regular payments such as utility bills.

The cash purchase of motor vehicles is also entered in the household schedule. In addition, expenditure on some items purchased infrequently (thereby being subject to high sampling errors) has been recorded in the household schedule using a retrospective recall period of either 3 or 12 months. These items include carpets, furniture, holidays and some housing costs. In order to avoid duplication, all payments shown in the diary record-book which relate to items listed in the household or income schedules are omitted in the analysis of the data, irrespective of whether there is a corresponding entry on the latter schedules. Amounts paid in respect of periods longer than a week are converted to weekly values.

Expenditure tables in this report show the 12 main commodity groups of spending and these are broken down into items which are numbered hierarchically (see ‘Changes to definitions, 1991 to 2011’ which details a major change to the coding frame used from 2001/02). Table A1 shows a further breakdown in the items themselves into components which can be separately identified. The items are numbered as in the main expenditure tables, and the average weekly household expenditure and percentage standard error is shown against each item or component.

Qualifications which apply to this concept of expenditure are described in the following paragraphs:

- **Goods supplied from a household's own shop or farm**
  Spenders are asked to record and give the value of goods obtained from their own shop or farm, even if the goods are withdrawn from stock for personal use without payment. The value is included as expenditure

- **Hire purchase and credit sales agreements, and transactions financed by loans repaid by instalments**
  Expenditure on transactions under hire purchase or credit sales agreements, or financed by loans repaid by instalments, consists of all instalments that are still being paid at the date of interview, together with down payments on commodities acquired within the preceding three months. These two components (divided by the periods covered) provide the weekly averages which are included in the expenditure on the separate items given in the tables in this report

- **Club payments and budget account payments, instalments through mail order firms and similar forms of credit transaction**
  When goods are purchased by forms of credit other than hire purchase and credit sales agreement, the expenditure on them may be estimated either from the amount of the instalment which is paid or from the value of the goods which are acquired. Since the particular commodities to which the instalment relates may not be known, details of goods ordered through, for example, clubs or mail order firms, during the month prior to the date of interview, are recorded in the household schedule. The weekly equivalent of the value of the goods is included in the expenditure on the separate items given in the tables in this report. This procedure has the advantage of enabling club transactions to be related to specific articles. Although payments into clubs, etc. are shown in the diary record-book, these entries are excluded from expenditure estimates

- **Credit card transactions**
  From 1988 purchases made by credit card or charge card have been recorded in the survey on an acquisition basis rather than the formerly used payment basis. Thus, if a spender acquired an item (by use of credit/charge card) during the two week survey period, the value of the item would be included as part of expenditure in that period whether or not any payment was made in this period to the credit card account. Payments made to the card account are ignored. However any payment of credit/charge card interest is included in expenditure if made in the two week period

- **Income tax**
  Amounts of income tax deducted under the Pay As You Earn (PAYE) scheme or paid directly by those who are employers or self-employed are recorded (together with information about tax refunds). For employers and the self-employed the amounts comprise the actual payments made in the previous 12 months and may not correspond to the tax due on the income arising in that period, for example if no tax has been paid but is due or if tax payments cover more than one financial year. However, the amounts of tax deducted at source from some of the items which appear in the Income Schedule are not directly available. Estimates of the tax paid on bank and building society interest and amounts

deducted from dividends on stocks and shares are therefore made by applying the appropriate rates of tax. In the case of income tax paid at source on pensions and annuities, similar adjustments are made. These estimates mainly affect the relatively few households with high incomes from interest and dividends, and households including someone receiving a pension from previous employment

- **Rented dwellings**
  Expenditure on rented dwellings is taken as the sum of expenditure on a number of items such as rent, council tax, and water rates. For local authority tenants the expenditure is gross rent less any rebate (including rebate received in the form of housing benefit), and for other tenants it is gross rent less any rent allowance received under statutory schemes including the Housing Benefit Scheme. Rebate on council tax or rates (Northern Ireland) is deducted from expenditure on council tax or rates. Receipts from sub-letting part of the dwelling are not deducted from housing costs but appear (net of the expenses of the sub-letting) as investment income

- **Rent-free dwellings**
  Rent-free dwellings are those owned by someone outside the household and where either no rent is charged or the rent is paid by someone outside the household. Households whose rent is paid directly to the landlord by the DWP do not live rent-free. Payments for council tax for example are regarded as the cost of housing. Rebate on rates (Northern Ireland)/council tax/water rates (Scotland) (including rebate received in the form of housing benefit), is deducted from expenditure on rates/council tax/water rates. Receipts from sub-letting part of the dwelling are not deducted from housing costs but appear (net of the expenses of the sub-letting) as investment income

- **Owner-occupied dwellings**
  In the LCF, payments for water rates, ground rent, fuel, maintenance and repair of the dwelling, among other items, are regarded as the cost of housing. Receipts from letting part of the dwelling are not deducted from housing costs but appear (net of the expenses of the letting) as investment income. Mortgage capital repayments and amounts paid for the outright purchase of the dwelling or for major structural alterations are not included as housing expenditure, but are entered under ‘other items recorded’, as are council tax, rates (Northern Ireland) and mortgage interest payments. Structural insurance is included in ‘miscellaneous goods and services’

- **Second-hand goods and part-exchange transactions**
  The survey expenditure data are based on information about actual payments and therefore include payments for second-hand goods and part-exchange transactions. New payments only are included for part-exchange transactions, that is the costs of the goods obtained less the amounts allowed for the goods which are traded in. Receipts for goods sold or traded in are not included in income

- **Business expenses**
  The survey covers only private households and is concerned with payments made by members of households as private individuals. Spenders are asked to state whether expenditure that has been recorded on the schedules includes amounts that will be

refunded as expenses from a business or organisation or that will be entered as business expenses for income tax purposes, for example rent, telephone charges, travelling expenses and meals out. Any such amounts are deducted from the recorded expenditure

Income

The standard concept of income in the survey is, as far as possible, that of gross weekly cash income current at the time of interview, that is before the deduction of income tax actually paid, national insurance contributions and other deductions at source. However, for a few tables a concept of disposable income is used, defined as gross weekly cash income less the statutory deductions and payments of income tax (taking refunds into account) and national insurance contributions. Analysis in Chapter 3 of this report and some other analyses of LCF data use 'equivalisation' of incomes: in other words adjustment of household income to allow for the different size and composition of each household. For more information see Chapter 3. The cash levels of certain items of income (and expenditure) recorded in the survey by households receiving supplementary benefit were affected by the Housing Benefit Scheme introduced in stages from November 1982. From 1984 housing expenditure is given on a strictly net basis and all rent/council tax rebates and allowances and housing benefit are excluded from gross income.

Although information about most types of income is obtained on a current basis, some data, principally income from investment and from self-employment, are estimated over a 12-month period.

The following are excluded from the assessment of income:

- Money received by one member of the household from another (for example housekeeping money, dress allowance, children's pocket money) other than wages paid to resident domestic servants.
- Withdrawals of savings, receipts from maturing insurance policies, proceeds from sale of financial and other assets (such as houses, cars, and furniture), winnings from betting, lump-sum gratuities and windfalls such as legacies.
- The value of educational grants and scholarships not paid in cash.
- The value of income in kind, including the value of goods received free and the abatement in cost of goods received at reduced prices, and of bills paid by someone who is not a member of the household.
- Loans and money received in repayment of loans.

Details are obtained of the income of each member of the household. The income of the household is taken to be the sum of the incomes of all its members. The information does not relate to a common or a fixed time period. Items recorded for periods greater than a week are converted to a weekly value.

Particular points relating to some components of income are as follows:

- **Wages and salaries of employees**

The normal gross wages or salaries of employees are taken to be their earnings. These are calculated by adding to the normal 'take home' pay amounts deducted at source, such as income tax payments, national insurance contributions and other deductions (for example payments into firm social clubs, superannuation schemes, works transport, and benevolent funds). Employees are asked to give the earnings actually received including bonuses and commission the last time payment was made and, if different, the amount usually received. It is the amount usually received that is regarded as the normal take-home pay. Additions are made so as to include in normal earnings the value of occasional payments, such as bonuses or commissions received quarterly or annually. One of the principal objects in obtaining data on income is to enable expenditure to be classified in ranges of normal income. Average household expenditure is likely to be based on the long-term expectations of the various members of the household as to their incomes rather than be altered by short-term changes affecting individuals. Hence, if employees have been away from work without pay for 13 weeks or less, they are regarded as continuing to receive their normal earnings instead of social security benefits, such as unemployment or sickness benefit, that they may be receiving. Otherwise, normal earnings are disregarded and current short-term social security benefits taken instead. Wages and salaries include any earnings from subsidiary employment as an employee and the earnings of HM Forces

- **Income from self-employment**

  Income from self-employment covers any personal income from employment other than as an employee: for example, as a sole trader, professional or other person working on his own account or in partnership, including subsidiary work on his own account by a person whose main job is as an employee. It is measured from estimates of income or trading profits, after deduction of business expenses but before deduction of tax, over the most recent 12-month period for which figures can be given. Should either a loss have been made or no profit, income would be taken as the amounts drawn from the business for own use or as any other income received from the job or business. People working as mail order agents or baby-sitters, with no other employment, have been classified as unoccupied rather than as self-employed, and the earnings involved have been classified as earnings from 'other sources' rather than self-employment income

- **Income from investment**

  Income from investments or from property, other than that in which the household is residing, is the amount received during the 12 months immediately prior to the date of the initial interview. It includes receipts from sub-letting part of the dwelling (net of the expenses of the sub-letting). If income tax has been deducted at source the gross amount is estimated by applying a conversion factor during processing

- **Social security benefits**

  Income from social security benefits does not include the short-term payments such as unemployment or sickness benefit, received by an employee who has been away from work for 13 weeks or less, and who is therefore regarded as continuing to receive his normal earnings as described within section labeled 'Definitions'.

Quantiles

The quantiles of a distribution divide it into a number of equal parts; each of which contains the same number of households. In *Family Spending*, quantiles are applied to both household expenditure and income distributions.

For example, the median of a distribution divides it into two equal parts, so that half the households in a distribution of household income will have income more than the median, and the other half will have income less than the median. Similarly, quartiles, quintiles and deciles divide the distribution into four, five and ten equal parts respectively.

Most of the analysis in *Family Spending* is done in terms of quintile groups and decile groups.

In the calculation of quantiles for this Family Spending 2011, zero values are counted as part of the distribution.

Income headings

Headings used for identifying 2011 income information

Source of Income

References in tables	Components separately identified	Explanatory notes
a. Wages and salaries	Normal 'take-home' pay from main employment 'Take-home' pay from subsidiary employment Employees' income tax deduction Employees' National Insurance contribution Superannuation contributions deducted from pay Other deductions	(i) In the calculation of household income in this report, where an employee has been away from work without pay for 13 weeks or less his normal wage or salary has been used in estimating his total income instead of social security benefits, such as unemployment or sickness benefits that he may have received. Otherwise such benefits are used in estimating total income (see notes at reference e). (ii) Normal income from wages and salaries is estimated by adding to the normal 'take-home' pay deductions made at source last time paid, together with the weekly value of occasional additions to wages and salaries (see page 137). (iii) The components of wages and salaries, for which figures are separately

		available, amount in total to the normal earnings of employees, regardless of the operation of the 13 week rule in note (i) above. Thus the sum of the components listed here does not in general equal the wages and salaries figure in tables of this report.
b. Self-employment	Income from business or profession, including subsidiary self-employment	The earnings or profits of a trade or profession, after deduction of business expenses but before deduction of tax.
c. Investments	Interest on building society shares and deposits Interest on bank deposits and savings accounts including National Savings Bank Interest on ISAs Interest on Gilt-edged stock and War Loans Interest and dividends from stocks, shares, bonds, trusts, PEPs, debentures and other securities Rent or income from property, after deducting expenses but inclusive of income tax (including receipts from letting or sub-letting part of own residence, net of the expenses of the letting or sub-letting). Other unearned Income	
d. Annuities and pensions,other than social security	Annuities and income from trust or covenant Pensions from previous employers Personal pensions	
e. Benefits	Child benefit Guardian's allowance Carer's allowance (formerly Invalid care allowance) Retirement pension (National Insurance) or old person's pension Pension credit Widow's pension/bereavement allowance or widowed parent's allowance War disablement pension or war widow/widower's pension Severe disablement allowance Care component of disability living allowance	(i) The calculation of household income in this report takes account of the 13 week rule described at reference a, note (i). (ii) The components of social security benefits, for which figures are separately available, amount in total to the benefits received in the week before interview. That is to say, they include amounts that are discounted from the total by the operation of the 13 week rule in note (i). Thus the sum

	Mobility component of disability living allowance Attendance allowance Job seekers allowance Winter fuel allowance Cold Weather Payment Income support Working tax credit Child tax credit Incapacity benefit Statutory sick pay (from employer) Industrial injury disablement benefit Maternity allowance Statutory maternity pay Statutory paternity pay Statutory adoption pay Health in pregnancy grant Any other benefit including lump sums and grants Social security benefits excluded from Income calculation by 13 week rule.	of the components listed here differs from the total of social security benefits used in the income tables of this report. (iii) Housing Benefit is treated as a reduction in housing costs and not as income.
f. Other sources	Married person's allowance from husband/wife temporarily away from home Alimony or separation allowances; allowances for foster children, allowances from members of the Armed Forces or Merchant Navy, or any other money from friends or relatives, other than husbands outside the household Benefits from trade unions, friendly societies etc. other than pensions Value of meal vouchers Earnings from intermittent or casual work over 12 months, not included in a or b above Student loans and money scholarships received by persons aged 16 and over and aged under 16 Other income for children under 16	e.g. from spare time jobs or income from Trusts or investments

Survey Improvements

Quality project

During 2010 work was done to improve the quality of the LCF outputs. A review of the quality assurance and validation processes was conducted and a number of areas of improvement identified.

Questionnaire review

In order to ensure the LCF questionnaire is up-to-date it is important that questions are regularly reviewed so that relevant changes can be made.

Reviewing the questionnaire is a process of continuous improvement and throughout 2010 this analysis resulted in several changes being incorporated into the 2011 questionnaire. Some of the main changes which have been implemented include a new section designed to capture expenditure on combined communication packages, as well as introducing a more enhanced method of recording holiday expenditure. The addition of the combined communication packages section particularly affected expenditure relating to internet costs, resulting in a large increase in expenditure for this COICOP category (8.4) for 2011. Similarly, the questionnaire change relating to holiday expenditure resulted in a large increase in the expenditure recorded for the package holidays COICOP category (9.6). These 2011 expenditure values are documented in Table A1, and are just some of the improvements which have taken place as a way of developing the questionnaire.

The Blaise CAPI is also reviewed throughout the year, with the help of feedback from pilot surveys and interviewers, to ensure that the questions asked are as simple to understand as possible, and similarly are interpreted in the same way by each respondent.

Weighting

Since 1998/99 the survey has been weighted to reduce the effect of non-response bias and produce population totals and means. The weights are produced in two stages. First, the data are weighted to compensate for non-response (sample-based weighting). Second, the sample distribution is weighted so that it matches the population distribution in terms of region, age group and sex (population-based weighting).

Sample based weighting using the Census

Weighting for non-response involves giving each respondent a weight so that they represent the non-respondents that are similar to them in terms of the survey characteristics. From 1998/99 the EFS used results from the 1991 Census-linked study of non-respondents to carry out non-response weighting[2]. From 2007 onwards the EFS/LCF non-response classes and weights have been annually updated using 2001 Census-linked data.

The Census-linked studies matched census addresses with the sampled addresses of some of the large continuous surveys, including FES for the1991 link study and EFS for the 2001 link study. In this way it was possible to match the address details of the respondents as well as the non-respondents with corresponding information gathered from the Census for the same address. The information collected during the 1991 and then the 2001 Census/FES/EFS matching work was then used to identify the types of households that were being under-represented in the survey.

For the 1991 Census-based non-response weights, a combination of household variables were analysed with the software package AnswerTree (using the chi-squared statistics CHAID)[3] to identify which characteristics were most significant in distinguishing between responding and non-responding households. These characteristics were sorted by the program to produce 10 weighting classes with different response rates. For the updated 2001 Census-based non-response weights, a combination of household variables were analysed using a mixed model approach. The mixed model is a combined approach to modelling, designed to benefit from the underlying statistical model of logistic regression as well as utilising AnswerTree. Updated weighting classes were produced, using this analysis, to further improve non-response weighting from 2007. The results of the 2011 Census-linked studies will be used to further update non-response weighting in due course.

Population-based weighting

The second stage of the weighting adjusts the non-response weights so that weighted totals match population totals. As the LCF sample is based on private households, the population totals used in the weighting need to relate to people living in private households. The population totals used are the most up-to-date official figures available; from 2006 onwards, these totals have been population projections based on estimates rolled forward from the 2001 Census. Population totals adjusted precisely to harmonise with the LCF definition of a private household were introduced for 2011. These estimates used exclude residents of institutions not covered by the EFS/LCF, such as those living in bed-and-breakfast accommodation, hostels, residential homes and other institutions.

The non-response weights were calibrated[3] so that weighted totals matched population totals for males and females in different age groups and for regions. An important feature of the population-based weighting is that it is done by adjusting the factors for households not individuals.

The weighting is carried out separately for each quarter of the survey. The main reason is that sample sizes vary more from quarter to quarter than in the past. This is due to reissuing addresses after an interval of a few months where there had previously been no contact or a refusal to a new interviewer. This results in more interviews in the later quarters of the year than in the first quarter. Quarterly weighting, therefore, counteracts any potential bias from the uneven spread of interviews through the year. Quarterly weighting also results in small sample numbers in some of the age/sex categories that were used in previous years. The categories have therefore been widened slightly to avoid this.

Further information

Further information on the method used to produce the weights is available from the contacts given on page ii of this publication.

1 See Foster, K. (1994) *Weighting the FES to compensate for non-response, Part 1: An investigation into Census-based weighting schemes*, London: OPCS.

2 CHAID is an acronym that stands for Chi-squared Automatic Interaction Detection. As is suggested by its name, CHAID uses chi-squared statistics to identify optimal splits or groupings of independent variables in terms of predicting the outcome of a dependent variable, in this case response.

3 Implemented by the CALMAR software package before 2007 and GES for 2006–08 (updated weights).